

**DEPARTMENT OF CHEMISTRY
NATIONAL INSTITUTE OF TECHNOLOGY
KURUKSHETRA-136119**

Dated: 22.09.2020

MID-TERM EXAM-I (REAPPEARS, CHY-101T and CHIR-11)

SYLLABUS FOR CHY-101T

Electrochemistry and Corrosion: Types of electrodes, half-cell reactions, electrochemical cells, concentration cells. Theories of corrosion, types of corrosion (water-line corrosion, stress corrosion, pitting corrosion, microbiological corrosion). Factors affecting the rate of corrosion, devices for the control of corrosion (design, cathodic protection, modification of environment and protective coatings).

Photochemistry: Photochemical and dark reactions, laws of photochemistry, quantum efficiency, classification of photochemical reactions on the basis of their quantum efficiencies, Non-radiative processes (isc and ic), fluorescence, phosphorescence (Jablonski diagram), chemiluminiscence and photosensitization. Technology based on photochemical processes.

SYLLABUS FOR CHIR-11

Environmental Pollution

Air pollution- Sources and effects of pollutants, primary and secondary pollutants, control measures. **Acid rain:** Impacts on human communities and agriculture. **Green-house effect:** Definition, causes and consequences. **Depletion of ozone layer:**CFC, destruction of ozone layer by CFC, consequences, the effect of ozone modification, Photochemical smog, Bhopal gas tragedy. **Water pollution-** Water characteristics, water quality (WHO standard), natural water pollutants their origin and effects: oxygen demanding wastes, pathogens, nutrients, salts, heavy metals, pesticides, volatile organic compounds. River/ lake/ ground water pollution: DO, BOD, COD, TOC, oil & grease, pH and eutrophication. **Thermal pollution-** Cause, effects and control measures. **Solid waste management-** Causes, effects and control measures of urban and industrial wastes **Nuclear hazards-** Causes, effects and control measures.

Chetti Prabhakar
Course coordinator (CHY-101T and CHIT-11)

Minati Baral
HOD

Date of examination: 30.09.2020, time 5.00 PM to 5.50 PM (CHY-101T and CHIR11)

Note: The students having reappear in CHY-101T and CHIR-11 may contact on the email id chetti@nitkkr.ac.in